

REMARKS

Claims 1-20, as previously presented, and new claims 21-22 appear in this application for the Examiner's review and consideration. The new claims re directed to the preferred compounds that are recited in the compositions of claims 3 and 4. As no new matter has been introduced, the new claims should be entered at this time.

The indication of allowable subject matter in claims 3-5 and 7 is noted with appreciation. It is respectfully submitted that claims 15, 17 and 21-22 should also be indicated as allowable sine those claims recite the same compounds as claims 3-5 and 7. Furthermore, for the reasons that follow, it is believed that none of these claims need to be re-written in independent form but applicants reserve the right to do so in a further response, if necessary.

Claims 1, 2 and 8-13 were rejected as being unpatentable over Nagakura et al. US patent 4,052,047 ("Nagakura"). Applicants traverse this rejection.

The office action concedes that Nagakura's compounds are different from, and out of the scope of, formula (I) of claim 1, but asserts that those compounds have sufficient similarity such that a skilled artisan would be motivated to make the presently claimed compounds in order to find new pesticides. As previously explained, the closest prior art compound differs from the present invention by:

- i) having a methyl group at atom 3, and
- ii) having a gem-dimethyl group at atom 11, instead of atom 2, i.e. on the cycle not bearing the carbonyl group of the ketone.

In addition, claims 1, 2, and 8-13 were rejected as being obvious over US patent 4,639,330 to Sprecker et al. ("Sprecker"). Applicants also traverse this rejection.

Again, the office action concedes that Sprecker's compounds differ from those of formula (I) of claim 1, but asserts that those compounds have sufficient similarity to render the presently claimed compounds *prima facie* obvious.

Of course, both obviousness rejections can be overcome by a demonstration of unexpected results for the closest compounds of the present invention. It is respectfully submitted that the present compounds do provide unexpected properties with respect to their substantially different odor character compared to the compounds of the prior art. As previously explained, the present compounds when added to a perfuming composition or perfume provide a

woody and/or aromatic odor character note. In particular, the woody character imparted by these compounds has typically an amber, rooty or precious wood connotation. The aromatic character imparted by these compounds has typically a herb/balsam connotation (i.e., lavender, eucalyptus, clary-sage, etc. - see also paragraphs [0058] to [0062] of the present application). Furthermore, and more precisely, the compounds having two 6 member rings (i.e., the spiro-undecane derivatives) have odors of the woody/aromatic type, while the compounds having one 6 member ring and one 5 member ring (i.e., the spiro-decane derivatives) have odors of the woody type.

Sprecker discloses spiro-decane derivatives and in particular mixture of 10-butyl-(8 or 7)-methyl-spiro(4,5)dec-7-en-1-one or of 10- isopropyl -(8 or 7)-methyl-spiro(4,5)dec-7-en-1-one. Nagakura also discloses a spiro-undecane derivative, in particular 3,7,11,11-tetramethyl-spiro[5,5]-undeca-8-ene-1-one. The office action properly notes that there is a presumed expectation of similar properties because the present compounds differ from those of Sprecker or Nagakura only by the presence of additional CH₂ groups or by a different location of the substituents. This presumption is rebutted because the present compounds have significantly different properties and utilities. Although both compounds are useful as perfuming ingredients, the present compounds have distinctly different odor properties and organoleptic utilities.

In particular, Sprecker's prior art compounds have odors characterized by a typical floral, fruity and minty character. The woody undernotes (also mentioned in Sprecker) are much too weak to impart a woody character to the odor of such compounds and are also of the sweet type. Similarly, the prior art compound disclosed by Nagakura has an odor wherein, despite the flavor described in the disclosure, powdery-violet-sweet and floral characters dominate the odor.

Accordingly, the characters of the odor properties of the present compounds differ from those of the prior art by having a woody character, of ambery, rooty and/or precious woods connotation, and or an aromatic character, of herb/balsam connotation. The inventive compounds also differ from Sprecker by not having a floral/fruity character. These differences are all the more surprising and unexpected since the present compounds have odor characteristics that are substantially different from what is provided by the compounds of the cited references.

Furthermore, the different odor character of the present compounds is not ascertainable from or suggested by Sprecker or Nagakura, nor are they obvious or extrapolatable from the compounds disclosed in Sprecker or Nagakura. Indeed, there is nothing in Sprecker or Nagakura

that leads a skilled artisan to foresee the presently claimed odor character simply based on the structural similarity of the prior art compound.

In this regard, there is submitted herewith an article entitled "On the Unpredictability of Odor" by C.S. Sell, *Angew. Chem. Int. Ed.* 2006, 45, 6524-6261, which establishes that the prediction of the odor of a novel molecule remains a statistical exercise and prior structures only provide a probability of character, threshold and intensity. This is underscored by the fact that the compounds of formula (I) have an odor which is very different from that of Sprecker or Nagakura, in spite of the fact that they have very close structures. These two compounds, as such, are well suited for different end use applications: indeed the present compound (I) is particularly well fitted to be incorporated into preparation wherein it is useful to impart/provide woody and/or aromatic tonalities, while the prior art compounds are more fitted to be incorporated into preparation wherein it is useful to impart/provide sweet, floral tonalities. Thus, the compounds of the invention and those of the cited prior art are useful for entirely different purposes.

As previously noted in other patent applications from this assignee, in this art, a skilled artisan cannot rely on structural closeness to predict the organoleptic characteristics of a specific compound, or the usefulness of the odor properties of the compound. Therefore, although the prior art and present compounds are related as structural homologues differing in the position of the double bond, the compounds are actually of different nature, with different properties and organoleptic utilities, and any presumption of property similarities between the compounds should be overcome.

To further support these comments, a Rule 132 Declaration of Pierre-Alain Blanc was previously submitted. Mr. Blanc, a master perfumer and one of ordinary skill in the art, finds no teaching in Sprecker or Nagakura of how to obtain or utilize the compounds or compositions of the present invention for imparting a woody and/or aromatic odor character note.

The office action suggests that the declaration is insufficient to overcome the rejection because there is no showing of unexpected results. Applicants traverse this statement.

First of all, Dr. Blanc is a skilled artisan in the perfuming field. His specific duties are to evaluate perfuming compounds to determine their fragrance properties and commercial potential. He certainly is an expert when it comes to evaluating and comparing the odor characters of such compounds.

In this matter, Dr. Blanc initially confirmed that the odor characters of compounds cannot be ascertained by simply looking at the structures of the compounds, and that, in particular, the odor properties of the present compounds are not obvious or ascertainable from the compounds disclosed in Sprecker or Nagakura. He has reviewed the odor characters for the compounds disclosed in those patents and found that the odor characters of such prior art compounds are entirely different from those of the presently claimed compounds. As noted herein and in Dr. Blanc's declaration, Sprecker's prior art compounds are characterized as having floral, fruity and minty odor characters with weak, sweet woody undernotes, while Nagakura's compounds have an odor wherein powdery-violet-sweet and floral characters dominate. He has also confirmed that the odor characters of these prior art compounds do not suggest the odor characters of the compounds of the present invention, which provide a woody and/or aromatic odor character note that typically has an amber, rooty or precious wood or herb/balsam connotation. He also confirms that these compounds have different end use applications such that they are not interchangeable from a perfuming standpoint.

Accordingly, Dr. Blanc's declaration does report a comparative analysis of the odor characters of the prior art and the present invention. Since the reported data is obtained by a well established odor character determinations by skilled artisans such as Dr. Blanc, there is no need to conduct separate tests as he can simply assess and compare the reported results which, to a skilled artisan such as him, demonstrate meaningful differences that support the patentability of the present claims.

In view of the above, it is respectfully submitted that all current rejections have been overcome and should be withdrawn. Accordingly, the entire application is believed to be in condition for allowance, early notice of which would be appreciated.

Respectfully submitted,

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